

WHAT IS CLAIMED IS:

1. A level-adjusting apparatus for an attachment device, comprising
a support member attached to a sub frame that is movable horizontally;
5 a cylinder assembly mounted on one side of the support member having a
suction cup on its lower end;
a flexible screw shaft passing through the cylinder assembly so as to be
connected to the suction cup; and
an actuator driving the flexible screw so as to adjust the vertical position of
10 the suction cup connected to the flexible screw shaft.
2. The apparatus of claim 1, wherein the support member is provided with a
guiding pipe thereon so that the flexible screw shaft is guided.
- 15 3. The apparatus of claim 2, wherein the end of the guiding pipe is configured
to be curved to 90 degrees with respect to the suction cup end of the screw shaft so as
to prevent it from interfering with the sub frame.
4. The apparatus of claim 1, wherein the cylinder assembly comprises a
20 plurality of nesting cylinders that are provided with upper stoppers protruding
outward of the cylinders and lower stoppers protruding inward of the cylinders, and a
cylinder with a smaller diameter snugly fits into a cylinder with a larger diameter.

5. An apparatus of claim 1, wherein the actuator is a motor.

6. An apparatus of claim 4, wherein the actuator is a motor.

5 7. An apparatus of claim 5, further comprising:

a power transfer element interposed between the motor and the screw shaft,
wherein the power transfer element comprises a driving gear connected to
the output shaft of the motor, and a driven gear outwardly meshed with the driving
gear and inwardly meshed with the flexible screw shaft.

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8. An apparatus of claim 6, further comprising:

a power transfer element interposed between the motor and the screw shaft,
wherein the power transfer element comprises a driving gear connected to
the output shaft of the motor; and a driven gear outwardly meshed with the driving
15 gear and inwardly meshed with the flexible screw shaft.